I. Overview

Rapid population growth, accelerated industrialization, growing urbanization, and unsustainable agriculture make ever-increasing demands on the earth's finite natural resources—especially in the developing world. Take water, for example. In many countries unsound water use has led to preventable environmental catastrophes such as the destruction of the Aral Sea. Once the largest inland lake on the planet, the sea has shrunk in volume by 76 percent because of excessive irrigation. Plant and animal life around the sea has dwindled, and commercial fishing has been destroyed. Whirling clouds of fertilizer salts from the Aral Sea shore breed "killer" dust storms that shorten life spans and dramatically raise infant mortality rates.

Unchecked urbanization is an enormous problem. Almost half the world's 6 billion people now live in cities. This number continues to rise. As it does, it drastically heightens demands for natural resources and energy, for waste treatment and disposal, and for locally responsive means to manage necessary services such as the provision of potable water.

Environmental degradation often strikes at those who can least withstand it. Natural disasters such as hurricanes, floods, and earthquakes often deal harsh blows to the poorest of the poor. Furthermore, local governments that are unable to respond immediately to such disasters with emergency provisions—or to offer mitigation strategies soon after—only aggravate recovery problems for local communities. In short, a bad situation is made even worse.

Many developing countries lack strong national environmental plans, sustainable policies, and regulatory enforcement. In other developing countries, short-term regional and local natural resource decisions are often misguided. Whatever the source, environmental degradation directly and severely limits economic growth. For example, the World Bank recently reported that the impact of doubling emissions of carbon dioxide can reduce the gross domestic product (GDP) of developing countries by as much as 10 percent while dramatically reducing crop yields. In short order, environmental degradation diminishes the quality of life for everyone.

USAID alone cannot solve all these environmental problems. That will take time, persistence, and more resources than any single donor can muster. But the Agency, working closely with host countries and developmental partners, can help stem environmental decline. Our strategy is to attack the root causes of environmental degradation, monitor performance, and revise strategies and tactics accordingly. To accomplish this, USAID environment programs in more than 50 countries work to improve national policies, promote technology development and use, and build capacity to plan, promote, monitor, and enforce community empowerment to protect the environment.

In Africa, for example, USAID historically finds that local management, particularly community-based natural resource management, is one of the most promising approaches. The environment and energy programs for Asia and the Near East typically target

5

Strategic Goal 5:

Manage the Environment For Long-Term Sustainablilty

macrolevel policy and regulatory reforms. At the same time, forestry and coastal-resource management programs emphasize community empowerment.

Geography also distinguishes the approach taken. In the Middle East, for example, the Agency primarily emphasizes improving management of increasingly scarce water resources. In South Asia, our environmental programs typically concentrate on clean and efficient energy systems, climate change mitigation, and urbanization. In East Asia, environmental programs respond to coastal resource degradation, insufficient clean water and sanitation, deforestation and loss of biodiversity, industrial pollution, and the means to mitigate greenhouse gas emissions.

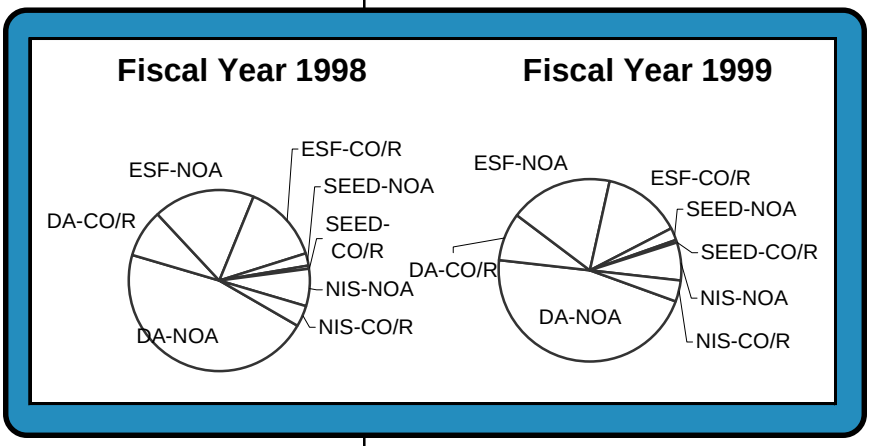
In Latin America and the Caribbean, environmental programs target energy development, industrial pollution, clean water and sanitation, sustainable forestry, biodiversity, and coastal areas management. Europe and Eurasia's programs concentrate on policy issues and strengthening environmental standards, considering the region's legacy of strict central planning. Supporting the adoption of cleaner, more efficient technologies for energy production is an integral part of these policy-related efforts. So too is supporting industrialized urban applications of environmental practices, especially in the private sector.

What we have learned as an Agency is that to protect the environment is genuinely possible only on a limited scale. The key to that progress is to steadily build host-country cooperation at all levels—from national governments to municipalities to local farmers, while simultaneously seeking partners among international donors and, increasingly, the private sector. Cooperation is essential to solving environmental problems in the developing world.

The enormity of the problems often dictates that USAID can be most effective when we can influence policy at the national level. With host-country support, national initiatives aimed at improving the environment can yield big

Figure 5.1. USAID-Managed Funds by Strategic Goal
Manage the Environment for Long-Term Sustainability

All Accounts	Fiscal Year 1998		Fiscal Year 1999	
	$US millions	Percent of total	$US millions	Percent of total
Development Assistance	**290**	**55**	**266**	**45**
New Obligation Authority	244	46	248	42
Carryover/recoveries	46	9	18	3
Economic Support Funds	**169**	**32**	**267**	**45**
New Obligation Authority	96	18	197	33
Carryover/recoveries	74	14	70	12
SEED	**15**	**3**	**8**	**1**
New Obligation Authority	12	2	3	1
Carryover/recoveries	2	0	4	1
NIS	**55**	**10**	**56**	**9**
New Obligation Authority	36	7	41	7
Carryover/recoveries	19	4	15	3
IDA	–	–	–	–
PL 480	–	–	–	–
Total	**530**	–	**596**	–



payoffs. Helping forge national environmental action plans is a good first step. Reforming and removing subsidies on energy that encourage pollution is another. Recognizing ways to limit deforestation nationally and across borders is yet another policy thrust. Beyond national-level efforts, the Agency has also found that community-based natural resource management yields positive outcomes as well. Integrating gender issues into grass-roots natural resource management improves both the effectiveness and the equity of these more local efforts.

Finally, USAID has found that efforts to strengthen municipal governments have significantly enhanced the ability of communities to more closely manage their local environments by delivering needed urban services such as solid-waste collection, potable water, and wastewater treatment. Experience has shown that twin activities aimed at improving both the local economy and the environment have the kind of staying power to create genuine, lasting effects.

Benefits to the American Public

U.S. citizens and American industry are affected directly by global climate change, the loss of biodiversity, the spread of pollutants, misuse of toxic chemicals, and the decline of ocean fish stocks. These issues cannot be confined to country borders. They are truly global threats potentially affecting the quality of life here in the United States.

Struggles over land tenure and ownership, water rights and use, and availability and equitable distribution of natural resources around the world often promote national and regional instability. This instability is most threatening when local governments cannot respond to the growing demands of an urbanizing community for potable water, adequate shelter, garbage collection, wastewater treatment, transportation, and infrastructure to support economic growth. The U.S. national interest in a politically stable world replete with opportunity for trade and commerce is best served by helping developing cities and communities serve their populations through effective delivery of services and economic opportunities. Their failures to do so often become major threats to U.S. interests. U.S. leadership in the developing world is essential to resolving many such problems while fostering environmentally sustainable economic growth.

American business interests related to the environment are also particularly strong in such areas as tourism (the Caribbean, for example), energy development and management, sustainable forestry linked to international markets, and opportunities for U.S. companies to sell environmental services and technologies such as wastewater treatment and clean industrial production methods. USAID, as a leading agency helping to protect the global environment, works closely with its U.S. partners such as the departments of State, Treasury, Commerce, Energy and Agriculture, as well as the Environmental Protection Agency, to help protect our fragile planet.

U.S. citizens and American industry are affected directly by global climate change, the loss of biodiversity, the spread of pollutants, misuse of toxic chemicals, and the decline of ocean fish stocks.

Involvement of Other Donors and U.S. Government Agencies

USAID works closely with a wide array of multilateral and bilateral donors worldwide to protect the environment. No single donor can make a lasting impact, making close cooperation among donors and in the private sector not only desirable but absolutely necessary to achieve sustainable development. Across the Agency's five environmental objectives, major development partners include the World Bank and every regional development bank, such as the Asian Development Bank. For example, to improve the management of natural forests and tree systems, recent collaborative funding included $1 million from the ADB, $1 million from the International Tropical Timber Organization, and $200,000 from the government of Japan. The Asian Development Bank also complements USAID programs in energy sector reform, urban pollution, and greenhouse gas mitigation, along with the UN Development Program and the Global Environment Facility.

Agency efforts to preserve biodiversity offer another example of close donor coordination. We work closely with the World Bank, the Global Environmental Facility run jointly by the World Bank and the United Nations, and the International Union for the Conservation of Nature. To encourage sustainable use of coastal and freshwater systems, for example, USAID also works in close partnership with the Swedish Interna-

Table 5.1. Involvement of Other Donors and U.S. Government Agencies

Major Donors **International Organizations and Bilateral Donors**	Host-Country Commitment Performance Goal 1	Habitat Protected Performance Goal 2	CO_2 Emissions Slowed Performance Goal 3	Access to Drinking Water Performance Goal 4a	Access to Sanitation Services Performance Goal 4b	GDP per Unit of Energy Use Performance Goal 5	Changes in Forest Cover Performance Goal 6
World Bank	X	X	X	X	X	X	
Regional Development Banks			X	X	X	X	
GEF		X	X				
Germany							X
IUCN		X					
Japan			X	X	X	X	X
UNDP	X		X				
U.S. Government Agencies							
Agriculture		X					X
Commerce	X		X				
Energy			X			X	
EPA		X	X			X	
HUD				X	X		
State	X			X	X	X	
Treasury						X	

tional Development Agency, the UN Development Program, and Irish AID.

When we stress improving the living condition of the urban poor by expanding the delivery of environmental services (basic shelter, clean water, and sanitation services), the Agency's principal partner has been the World Bank. These efforts have expanded to strengthen municipal governments' capacity to deliver environmental services. USAID partners likewise have grown in number, now including the Federation of Canadian Municipalities and the International City–County Management Association. USAID has also worked closely with the Department of Housing and Urban Development in charting a course for the reconstruction of shelter and infrastructure in Central America as a result of Hurricanes Georges and Mitch.

Improving the living conditions of the urban poor also requires cutting urban pollution. Here, the Agency works closely with donors and partners to tackle this growing problem. For example, USAID and the International Council for Local Environmental Initiatives, based in Canada, are sharing costs for the Agency's Cities for Climate Protection initiative.

Frankly, only a few performance targets were met or exceeded last year at the Agency level. At the same time, USAID has demonstrated that it is good (and getting better) at meeting regional and local environmental targets.

II. USAID Strategies And Program Performance

The Agency sets broad performance goals as well as more specific country, regional, and localized targets. The six Agency performance goals are

1. Host-country commitment to sound national and international environmental programs
2. Biodiversity: conservation of biologically significant habitat improved
3. Global climate change: rate of growth in net emissions of greenhouse gases slowed
4. Sustainable urbanization: urban population's access to adequate environmental services increased
5. Environmentally sound energy services: energy conserved through increased efficiency and reliance on renewable sources
6. Natural resource management: loss of forest area slowed

On the whole, USAID has been much less successful in meeting Agency performance goals as indicated below. Frankly, only a few performance targets (National Environmental Management Plans and habitat improved—goals 1 and 2) were met or exceeded last year at the Agency level. At the same time, USAID has demonstrated that it is good (and getting better) at meeting regional and local environmental targets. For example, last year, close to 80 percent of all Agency environmental targets were met by our operating units in the field.

No one really knowledgeable about the condition of the world's environment should be surprised that USAID has not met its higher order Agency performance goals—since they typically reflect long-standing, pernicious national and global environmental issues. Simply put, the Agency performance goals often lie far beyond the reach of any single donor.

Behind issues of manageable interest also loom long-standing measurement problems. For example, difficulties persist in data timeliness and the availability of the kind of data needed to accurately track USAID's environmental impacts. Another serious problem is how to identify indicators at the country level that can "roll up" to show cumulative or aggregate results achieved by the Agency on a worldwide basis; yet such statistics are needed to assess the Agency performance goals with any accuracy.[1] At the same time, the Agency is doing well in achieving the environmental targets set by its field operating units. It is worth noting again that close to 80 percent of operating units met or exceeded their environmental targets for fiscal year 1998.

Host-Country Commitment

The first performance goal is an expression of overall host-government commitment to national environmental programs addressing biodiversity conservation, climate change, urbanization, natural resource management, and sustainable development. USAID's initial approach in a region often involves national environmental policy reform and strategy development to lay a foundation for later program interventions. Effects of policy reform on the environment, though critical, may only be felt in the longer term.

For example, in **Tanzania,** USAID works to establish a foundation to spread farmers' use of environmentally sustainable natural resource management practices. To measure progress, the Agency is using a composite measure to reflect policy changes and rates of adoption. Similarly, in **India, Indonesia,** and **the Philippines,** USAID uses a measure of policy change and improved "enabling conditions" to assess results in climate-change mitigation programs.

In many places, such as **Ukraine,** environmental policy reform efforts involve making sure that nongovernmental organizations (NGOs) and citizens have accurate environmental information, are affiliated in networks, and have the capacity to engage local and national authorities concerning environmental policies. In other cases, for example in **Ecuador,** USAID works

at all levels to help improve and enforce key policies and legal frameworks for strengthening biodiversity conservation in targeted protected areas and adjacent areas or buffer zones.

Elsewhere in Latin America, USAID funds the Central American Commission of Environment and Development (CCAD), which has helped Central American governments draft environmental laws and regulations. CCAD has assisted with pollution control regulations in **Costa Rica, El Salvador, Guatemala,** and **Nicaragua;** wastewater regulations in El Salvador and **Panama;** and a new biodiversity law in Nicaragua. Additionally, as a result of USAID and CCAD training in environmental enforcement and compliance, Central American countries have begun to levy fines for illegal environmental activities. **Belize** is cracking down on maritime companies for destroying important coral reefs, El Salvador and Guatemala are enforcing penalties for illegally cutting forests and mangroves, and **Honduras** is fining officials for improperly granting environmental permits.

In fiscal year 1998, USAID supported implementation of cross-country water sharing and management agreements in Europe and Eurasia to promote greater understanding of the multisectoral aspects of transboundary water and energy management. With host-country support, the Agency's ongoing regional water and energy management program continues to provide important opportunities for dialog between **Central Asian Republics.** This has led to the signing of agreements on energy and water use for the entire Syr Darya basin area. Those agreements were broadened in FY98 to include **Tajikistan** as a signatory.

With USAID support, **Africa** has made significant progress building the environmental assessment capacity of governmental officials and nongovernmental partners. Training in environmental assessment approaches in Africa has exceeded expectations, in terms of both the number of individuals trained and the adoption of environmental assessment policies and guidelines by their nations.

With USAID support, Africa has made significant progress building the environmental assessment capacity of governmental officials and nongovernmental partners.

Local and national capacity development helps host countries formulate better environmental policies. In concert with the Africa Bureau, for example, USAID has sponsored regulation 216 (the Agency's environmental regulation) Title II workshops in more than 10 countries to train private voluntary organizations and cooperating sponsors in how to conduct environmental assessments and reviews. USAID has also helped the government of **India** draft regulations on the handling of solid waste. And it has helped the government of **Indonesia** develop a program to make information on industrial environmental performance available to the public.

USAID's environmental policy support activities are widely distributed around the globe. During fiscal year 1998, for example, more than 40 percent of operating units across all geographic bureaus had strategic objectives directed toward some element of environmental policy formulation. Many of these field-based activities led to renewed support for host-country commitments to protect the environment.

Local control, particularly community-based natural resource management, is one of the most promising approaches pioneered and applied throughout Africa and elsewhere by USAID.

Agency Objective 5.1: Biological Diversity Conserved

USAID supports one of the most comprehensive biodiversity conservation programs of any bilateral donor. Biologically diverse ecosystems can be conserved by strengthening national policies, shoring up institutions, and creating incentives such as debt-for-nature swaps and tropical forests trust funds. Collectively, these activities permit host-country NGOs and government agencies to protect fragile environments. They also give people who directly use the land more authority and good reasons to better manage their own natural resources. That's because the land users' future economic well-being depends on a healthy local economy.

Results take time, though. Experience with USAID programs in **Africa** and **Asia** shows that taking a long-term perspective by staying the course can ensure sustainable returns on development investments. Local control, particularly community-based natural resource management, is one of the most promising approaches pioneered and applied throughout Africa and elsewhere by USAID. Linking self-management and resource stewardship to market-oriented enterprises produces results. Community-based approaches can also have national impact. In **the Philippines,** for example, the host country replicated USAID's forest-management programs nationwide. Now 2.4 million hectares of forest (9,300 square miles, almost of half of the Philippines' remaining forests) are under improved community management.

Data show that every year since 1991 the average annual growth in income generated through USAID-funded natural resource management programs in Africa has nearly doubled. Further, for the first time, analysis of satellite imagery demonstrates that regions where improved management practices have been put in place over the past 20 years now show significant gains in vegetative cover. This illustrates the close link between better natural resource management and effective conservation.

Biodiversity conservation is also a major Agency priority in **Latin America and the Caribbean.** For example, six additional park sites covering 5.6 million hectares graduated from LAC's Regional Parks in Peril Program in FY98. These sites no longer require USAID assistance to protect their rich stores of biodiversity. To date, a total of 17 sites covering about 15 million hectares have graduated from the Parks in Peril Program.

In other parts of Latin America (for example, in **Ecuador**) similar progress was made in conservation during FY98. Quito established an endowment (financed by a modest water-consumption fee) to protect the Cayambe–Coca Biosphere Reserve, which encloses the primary watershed upon which the city depends for its drinking water. Similarly, **Paraguay** placed 211,000 hectares (816 square miles) under public protection in 1998 because of USAID support for a national system of land conservation. This park system includes a new 103,000-hectare national park and one 7,000-hectare conservation park in the western region of the country.

Also during 1998, 30 communities within the Mayan Biosphere Reserve in

Guatemala agreed, with USAID support, to improve their land management, thereby better conserving 140,000 hectares of key forests and vegetative cover. Over the life of USAID/Guatemala's program in the Petén region, nearly 600,000 hectares of forest that would otherwise have been felled have been conserved through improved park protection, sustainable forestry practices, and voluntary relocation of villagers to more fertile lands outside protected areas.

In Europe and Eurasia, USAID worked to preserve biodiversity in Georgia, Russia, and Ukraine during fiscal year 1998. In **Georgia,** the United States assisted the National Park Service in building a new national park system. In **Russia,** USAID worked to preserve the Siberian tiger, granted technical assistance to protected areas through the World Wildlife Fund in the Russian far east, and facilitated the adoption of land-use management for habitat retention.

Agency Objective 5.2: The Threat of Global Climate Change Reduced

Under USAID's Climate Change Initiative, the United States committed $1 billion over five years to reduce net greenhouse gas emissions, increase country participation in the UN-sponsored Framework Convention on Climate Change (FCCC), and decrease country vulnerability to the effects of climate change.

In more than 40 countries, USAID global-climate-change programs work closely with host-country government institutions and also emphasize partnerships with national and community-level NGOs, with multilateral development banks, and with concerned private business interests.

USAID's global-climate-change activities specifically work to 1) promote energy efficiency and increase renewable energy use; 2) advance cleaner energy technologies in power generation and industrial and urban applications; 3) reduce net emissions through sustainable forest management, agroforestry, reforestation and sustainable agriculture activities; 4) increase FCCC participation through support of national action plans, joint implementation, and technology cooperation; and 5) maintain a portfolio of cross-sectoral vulnerability and adaptation activities, including strengthening capabilities for disaster assistance planning and mitigation. A minimum of 40 percent of global-climate-change funds are reserved for 12 critical climate-change countries and geographic regions.

In **Latin America and the Caribbean** as well as **Asia and the Near East,** the Agency emphasizes clean and efficient energy production and global-climate-change mitigation. It does this through technology transfer, energy and environmental policy and regulatory reform, and improved natural resource management. Such initiatives help in carbon sequestration and in mitigating greenhouse gas emissions.

In **Europe and Eurasia** as well as **Asia and the Near East,** USAID has stressed legal and policy reform and implementation in order to create an enabling environment more friendly to adopting climate-change measures. For example, working closely with environmental colleagues, the E&E environ-

ment and natural resources staff began a series of interventions to promote investment in cleaner production and more efficient energy technologies. During FY98, USAID also helped craft policies to encourage countries to join FCCC.

In Asia and the Near East the Agency was also busy curbing CO_2 emissions. For example, in FY98, 2 million tons of greenhouse gas emissions were avoided in **India** through USAID assistance. As with other privatization efforts, power sector reform work in **the Philippines**, assisted by USAID and the Asian Development Bank, put that country in the lead in Asia among developing countries working to modernize infrastructure.

Natural disasters also threaten to exacerbate global climate change. Widespread fires in various regions created significant problems last year, which USAID programs worked hard to solve. For example, in 1998 the El Niño Southern Oscillation generated exceptionally dry conditions in Brazil, Indonesia, and other countries, leading to extensive forest fires and haze. In **Indonesia** the economic losses that resulted totaled nearly $4.5 billion. Destroyed timber and crops, loss of tourism, and haze-induced health effects contributed to the losses.

In northeast **Brazil**'s Roraima State, USAID partners quickly responded with relief assistance for Roraima's indigenous peoples and logistical airborne support to digitally map the state's fire damage. A U.S. congressional hearing highlighted areas of high fire risk in the so-called arc of deforestation. Following the hearing, USAID spearheaded a broad-based mobilization to prevent accidental fires. This culminated in an Agency-led effort to coordinate a U.S. interagency working group to respond to the 1998 Amazon fires. As a result, 120,000 local people were trained in basic fire management during 1998. USAID was the only international donor in Brazil to respond with fire mobilization resources during last year's severe fire season.

Agency Objective 5.3: Sustainable Urbanization Including Pollution Management Promoted

Providing shelter and related services for the urban poor is an essential component of USAID's environmental strategy. Making cities work better protects the environment by reducing pollution, saving energy, and treating waste properly. We work to improve municipal services and to strengthen municipal governments to manage their local environments more efficiently and more equitably. USAID also works to promote partnerships with the private sector in urban areas to improve environmental management and to provide solutions to environmental problems.

For more than 30 years, USAID has assisted local governments in effectively delivering urban services. Through the Urban Environmental Credit Program (formerly the Housing Guaranty Program), for example, millions of households received improved access to urban environmental infrastructure and shelter. In 1998 alone, more than 500,000 households benefited from these improvements, and over 100 municipalities worldwide were assisted

in better financing and managing environmental services such as water, shelter, and waste treatment.

USAID worked in 21 countries in Asia, Africa, and Europe, as well as in Latin America, to improve diverse urban programming and management services in 1998. The Agency supported, for example, the financing of home-improvement loans, mortgages, potable water hookups, and sanitary sewer connections that curb urban environmental degradation. To improve urban management, USAID worked directly with municipal governments to raise local revenues, implement new financial accounting procedures, and apply tariff and fee reforms. These efforts allow cities to recover the costs of environmental improvements and make further enhancements.

Urban-oriented programs in **South Africa** and Zimbabwe promote home ownership through policy and institutional improvement, business development, and microenterprise. In **Zimbabwe,** for example, USAID's Private Sector Housing Program created 23,700 new jobs in Harare and Bulawayo and improved the business skills of more than 300 small-scale building contractors. The same USAID program helped establish Zimbabwe's first secondary mortgage finance corporation and first privatization of water and sewerage services, both of which will give urban dwellers more inexpensive and efficient access to shelter and services. The project also helped six local governments undertake municipal credit ratings—the first step to providing access to capital for infrastructure investments to improve the lives of poor city dwellers.

In Asia and the Near East, USAID activities in fiscal year 1998 improved the management of freshwater supplies, including the quantity and quality of wastewater treatment. The Agency mounted significant FY98 water resource management and urban support programs in **India** and **Indonesia** and in the **Middle East,** where the degradation and depletion of water resources posed the most critical challenges. For example, USAID helped 24 municipalities in Morocco (representing 2.75 million people, roughly 10 percent of the country's population) to construct new facilities for wastewater, drinking water, solid waste, urban greenspace, roads, and waste recycling. In **Jordan,** USAID developed pioneering water pricing and cost recovery systems during FY98 to ensure more equitable and sustainable delivery of water and sanitation services to the local population. In the **Philippines** and more than a dozen countries in **South** and **Southeast Asia,** USAID also worked in FY98 to improve access to clean water through the treatment and prevention of industrial pollution in urban areas.

In South Asia, with assistance from USAID, six municipalities used innovative environmental management tools in 1998 to identify problems with urban services and to identify ways of managing and providing essential services more efficiently. In **Nepal,** for example, an action plan for earthquake preparedness and mitigation for the Kathmandu Valley was developed and implemented in FY98, improving the ability of villages and municipalities to better prepare for, and respond to, natural disasters.

USAID's urban programs in **Europe and Eurasia** stress the strengthening

In Zimbabwe, USAID's Private Sector Housing Program created 23,700 new jobs in Harare and Bulawayo and improved the business skills of more than 300 small-scale building contractors.

of municipal services. While access to sanitation services appears adequate, substantial problems remain. Insufficient fee collections, the mixing of domestic and industrial wastes, and the poor quality of sewage treatment and solid-waste processing pose serious obstacles to effective service delivery.

The Agency considers improvements in the reliability, quality, and quantity of potable water to be of paramount importance to the hundreds of thousands of people jeopardized by the Aral Sea disaster, in which overirrigation has caused the volume of water to shrink by 76 percent. More specifically, USAID undertook $15 million in Aral Sea sustainable water management programs in FY98. The programs provided technical support to improve water quality, addressed immediate public needs for water, and developed an effective water management plan. For the first time, the plan describes regional water-sharing and -pricing agreements among the five Central Asian Republics.

While some data indicate that between 90 and 100 percent of the urban population has access to drinking water in Europe and Eurasia, the uncertain availability of safe drinking water free of toxic chemicals and other pollutants is a serious health problem. In many E&E countries drinking water is available for only a few hours a day and often in insufficient quantities.

Urbanization problems are no stranger to Latin America, as cities continue to swell and tourism grows. In **Jamaica,** for example, urbanization programs have stressed the interdependence of tourism and environmental protection. Waste from tourism, Jamaica's most important economic sector, is polluting local water resources and harming coral reefs—major magnets for tourism. To address this problem, USAID trained more than 20 wastewater plant operators and staff working in sewage-treatment facilities in fiscal year 1998.

In **Guatemala,** USAID's Resource Cities Program helped the country's second largest city design and develop a sanitary landfill that will collect and manage solid waste from the region.[2] In **Ecuador,** using microenterprises, USAID during FY98 established improved solid-waste collection and disposal systems in five municipalities. This represents a substantial increase in service coverage and accessibility for urban residents. In addition, USAID helped Ecuador open a secondary mortgage bank that will provide access for potential homeowners to lower costs and more advantageous terms for financing home ownership.

The Agency is also active in Europe and Eurasia, addressing urban problems. For example, to address water shortages, USAID provided critical assistance to improve the water-distribution network in Lviv, **Ukraine,** in FY98. The project helped the municipality rehabilitate pipeline segments and pumps that leaked water or operated inefficiently. Working with the World Bank, the project will be replicated in other Ukrainian cities.

Agency Objective 5.4: Use of Environmentally Sound Energy Services Increased

USAID's energy programs foster a favorable environment for U.S. exports and investments by helping developing countries, and those in transition, design

effective new policies, stimulate trade, and build lasting relationships among businesspeople at home and abroad.

Europe and Eurasia continued to make progress in FY98 to develop an energy regulatory framework (particularly in electric power) for several countries. **Armenia, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia,** and **Ukraine** all established separate energy regulatory organizations in FY98. The organizations had varying degrees of autonomy. USAID helped launch these nascent code-issuing organizations in FY98 as well as similar energy regulatory organizations in central and eastern Europe and the **Baltic.**

USAID also helped provide expert assistance to Baltic state utilities on the economics of electricity grid interconnection and market development issues in regional power development during FY98. In addition, the Agency supported efforts to develop a modern teleinformation system among national dispatch centers in **southeastern Europe** during FY98.

Through a number of missions in **Asia and the Near East,** USAID works to support clean-energy programs, improve power sector efficiency, and promote economic development, while helping reduce greenhouse gas emissions. Given the huge growth expected in Asia's power sector over the next 10 years, we will continue to promote clean energy and power sector reform. It will include privatizing, making markets more competitive, establishing rational energy pricing, and bringing about legal and regulatory reform. USAID continues helping countries make the transition from "dirty," inefficient power systems to more modern clean systems.

Suspension of **India's** environment program in fiscal year 1998 (as a result of India's nuclear tests) and the effect of the Asian financial crisis elsewhere took their toll on ANE's environmental programs. Asian environmental protection agencies generally reduced their enforcement actions, although energy-efficiency and climate-change work continued in **India** and **the Philippines.** For example, industrial firms often took a step backward on both environmental compliance and procurement of new environmental technologies. Fortunately, the economic situation in Asia is slowly improving. USAID expects that new urban and industrial investments next year will provide an important opportunity to increase clean production capacity and help safeguard both environmental quality and human health regionwide.

Asian environmental protection agencies generally reduced their enforcement actions, although energy-efficiency and climate-change work continued in India and the Philippines.

Elsewhere in the world, USAID has redoubled its efforts to promote pollution prevention and clean production. For example, in FY98 USAID supported noteworthy programs in Brazil and Mexico, major global-climate-change countries. Last year alone, the Bureau for Latin America and the Caribbean committed about $1.5 million in **Brazil** and $2.0 million in **Mexico** to a wide array of programs for energy efficiency.

Agency Objective 5.5: Sustainable Management of Natural Resources Increased

Our natural resource programs are perhaps the oldest in the Agency's arsenal to protect the environment. They include 1) improved management of coastal zones, forests, and water

In Nepal, annual sales to ensure high-value agricultural commodities were $20.6 million in 1998, up from less than $5 million just three years before.

resources, 2) increased use of sustainable agricultural practices, 3) enhanced public and community awareness of natural resource sustainability issues and how to address them, and 4) improved policy environment and use of economic and financial incentives.

In Africa, the Agency in FY98 supported community-based natural resource management programs to build basic capacity. For example, in **Zimbabwe,** revenues from wildlife-based enterprises slowly increased. In **Uganda,** more households are adopting improved soil conservation practices, which are beginning to spread beyond the demonstration sites.

During fiscal year 1998, ANE mounted significant natural resource management programs in **Indonesia, Nepal, the Philippines,** and **Sri Lanka.** In Nepal, for example, the Agency developed a market-led approach to encourage farmers to switch from traditional grains that deplete the soil to more sustainable production of high-value commodities. Annual sales to ensure high-value agricultural commodities were $20.6 million in 1998, up from less than $5 million just three years before. Also in Nepal, 4,000 hectares (15 square miles) of land has been turned over to community forest user groups for improved management over the past five years. Community control of forest resources represents a significant shift in the pattern of forest ownership and management in Nepal. It serves as a model for other countries.

In Europe and Eurasia, USAID supports the development of natural resource management programs in **Albania, Bulgaria,** and the **Russian far east.** For example, in FY98 the Albanian Private Forestry Development project helped the government transfer previously state-held forests to local communities and assisted in the development of local management plans to increase nontimber incomes and improve natural resource stewardship.

In the Russian far east, USAID supported sustainable forestry practices that offer alternatives to destructive clear-cutting, while helping promote higher exports of unfinished wood products. In general, acreage under modern management in E&E countries has slowly grown, and sound forestry practices are now taking hold in the region.

In LAC, the Agency concentrates on sustainable forestry management—targeted to critical nations (**Bolivia, Brazil, Honduras**) that still possess the largest tracts of intact forests that lie outside protected areas. In fiscal year 1998 USAID also continued to work in protected areas in the region: six additional sites covering 2.25 million hectares (8,700 square miles) graduated from the LAC Regional Parks in Peril program in FY98.

III. Agency Objectives By Operating Unit and Region

The overall distribution of USAID's field-based environment program did not change markedly in fiscal year 1998. Most of our environmental programs continue to promote natural resource management. Global climate change programs are concentrated in countries and regions that contribute most to net global greenhouse gas emissions and whose governments are most receptive to taking positive action. The Agency's energy programs are most concentrated in **Europe and Eurasia.** The complex nature of the Agency's urban approach, which includes components of natural resource management (wastewater management) and biological diversity (curbing urban sprawl), for example, may undercount its numbers. Policy leadership in all areas of environmental programming is one of the most important contributions USAID can make, because local or community-level efforts alone cannot sustain change if national policies are weak.

Table 5.2. Agency Objectives by Operating Unit and Region

	Africa	ANE	E&E	LAC	Total
Total field-based operating units	29	16	25	17	87
Total with environment objectives	12	11	14	16	53
Global climate change	1	5	7	4	17
Biological diversity	9	4	3	11	27
Sustainable urbanization	2	7	7	8	24
Energy	0	5	10	4	19
Natural resource management	13	10	7	16	46

Note: This table shows field-based operating units with strategic objectives in support of the environment goal and Agency objectives. Operating units may have more than one environment strategic objective. In addition, some of the operating units' strategic objectives support more than one Agency goal or objective. See annex B for details on distribution of programs in field-based operating units.

IV. Performance by Fiscal Year 1999 Annual Performance Plan

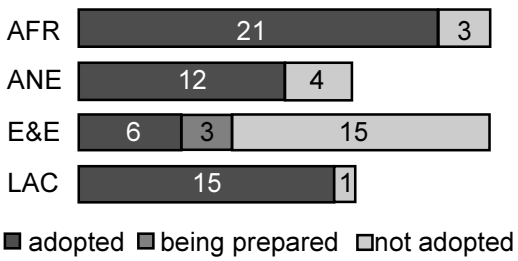
Performance Goal 1: Host-Country Commitment to Sound National and International Environmental Programs

A government's commitment to a cleaner environment and to better management of natural resources is crucial to sustainable development. Yet "commitment" is difficult to measure and even more problematic to interpret. No off-the-shelf measure or proxy indicator is currently available. To fill this gap, USAID developed a 20-point scale to assess a government's overall contribution or commitment to protecting the environment.

The real impact of an environmental policy often reflects the priority a government assigns to environmental degradation compared with other pressing national issues. The challenge facing developing countries is to achieve needed economic growth and quality-of-life improvements without harming the environment.

Balancing these pressures is difficult. One approach is to develop an integrated national environmental action plan (NEAP) in which the government sets priorities among many environmental programs (forestry, coastal zone management, etc.) and then integrates them into one single national plan. The Organization for Economic Cooperation and Development (OECD)—to which the United States belongs—has set forth a vision of development over the next decade. This planning document, *Shaping the 21st Century*, states that "there should be a current national strategy for sustainable development, during implementation, in every country by 2005, to ensure that current trends in the loss of environmental resources . . . are effectively reversed at both global and national levels by 2015." USAID incorporated this OECD goal for environmental sustainability into its own 10-year plan.

Figure 5.2. Number of Countries Adopting Environment Strategy/Action Plans, Environment Profiles, or Biodiversity Assessments Through 1998



Source: World Bank

Performance Analysis

Many countries have completed national environmental action plans or similar environmental strategies in the past decade. Figure 5.2 shows the number of countries adopting or completing environmental strategies or action plans, country environmental profiles, and biological diversity profiles. Of USAID-assisted countries, 87 percent have completed them in **sub-**

Saharan Africa, 75 percent in **Asia and the Near East,** 93 percent in **Latin America and the Caribbean,** and 25 percent in **Europe and Eurasia.** Three USAID countries in Europe and Eurasia are preparing their

Performance Table From Fiscal Year 1999 Annual Performance Plan

Table 5.3. Performance Goal 1: Host-Country Commitment to Sound National and International Environmental Programs

Indicator: Government Environmental Commitment Index.

Sources: World Bank, *World Development Indicators 1999;* the Consortium for International Earth Science Information Network (CIESIN, March 1997). Also consulted were Environmental Treaties and Resource Indicators (ENTRI), selected information/treaty status reports, and Web sites for each of the treaty secretariats.

		APP Baseline(1) 1997	**Latest Actual (2)** 1999	**Target (3)** Fiscal Year 1999
Agency Level	**planned**			**12.9**
	actual	**12.6**	**14.6**	
sub-Saharan Africa	planned			13.3
	actual	13.0	14.5	
Asia–Near East	planned			12.5
	actual	12.3	14.8	
Europe–Eurasia	planned			11.9
	actual	11.7	13.5	
Latin America–Caribbean	planned			13.9
	actual	13.6	16.3	

Definition: For the fiscal year 1999 Annual Performance Plan, a 19-point scale was developed to assess a government's commitment to the environment (low =0–7, medium =7.5–14, high = 14.5–19). This scale was revised because of changes in source data availability and is now a 20-point scale (see below). The regional scores are unweighted averages for USAID-assisted countries within each bureau. See annex B for country level data.

Activities under the Environment performance goal 1 range from working with countries developing National Environmental Action Plans (NEAPs) to developing and strengthening environment ministries and working with governments to develop national policies on specific resource issues such as wildlife management. Countries and regions are evaluated on this performance goal with a 20-point index that includes whether a country has prepared any of three types of environmental management strategies or whether it has participated in any of seven major international environmental treaties. The strategies and treaties include an environmental strategy or action plan, a country environmental profile, a biodiversity assessment strategy or action plan, the Framework Convention on Global Climate Change, the Vienna Convention on the Protection of the Ozone Layer, the Montreal Protocol for CFC Control, the Law of the Sea, the Kyoto Protocol, the Biodiversity Treaty, and the Convention on International Trade in Endangered Species of Flora and Fauna (CITES).

1. The baseline is for commitment levels in 1997. This involved examining the treaty ratification situation at the end of 1997. The scores are based on the same 20-point scale as the latest data in 1999.

2. The latest data are based on the status of NEAPs and the ratification/signature status of the above treaties at midyear 1999.

3. The Agency's target for this performance goal is a 1 percent increase per year, or 2 percent from 1997–99.

The scale does not indicate the degree to which an environmental strategy has been carried out or an international treaty was followed. Averaging this scale across regions serves only to give a general idea of political commitment to environmental issues.

The regional average index scores are unweighted.

With all regions meeting their 1999 targets, the Agency is giving considerable thought to revising its out-year targets.

first action plans (**Armenia, Kazakhstan, and Uzbekistan**). Still more are updating existing ones.

NEAPs are important, but just a small part of the measurement story. Table 5.3 shows government progress across the 20-point scale. The index ranks governments on that scale with the cutoff points of 0–7 for a low commitment, 7.5–14 for a medium commitment, and 14.5–20 for a high commitment. Across all four USAID bureaus there have been increases in this index during 1997–99. The USAID performance target was a 1 percent annual increase in index scores. In all regions the score has exceeded the expected goal. The increased scores for this index are due to recent ratifications and signatures on several treaties and international agreements supporting environmental protection. One of the newer components to the USAID index score is the Kyoto Protocol on Global Climate Change, which has been signed by 28 countries and ratified by five additional USAID-assisted countries. Other treaties have also witnessed recent expanded accession or ratification.

The following are recent ratifications and signatures by USAID-assisted countries (1998, 1999):

- Law of the Sea: Nepal, Poland, Ukraine
- Convention on Biological Diversity: Angola
- Convention on Climate Change: Madagascar, Rwanda
- Kyoto Protocol (signature): Bolivia, Brazil, Bulgaria, Croatia, Ecuador, Egypt, El Salvador, Guatemala, Honduras, Indonesia, Israel, Kazakhstan, Latvia, Lithuania, Mali, Mexico, Nicaragua, Niger, Peru, the Philippines, Poland, Romania, Russia, Slovakia, Turkmenistan, Ukraine, Uzbekistan, Vietnam, Zambia
- Kyoto Protocol (ratification): El Salvador, Georgia, Jamaica, Panama, Paraguay
- Vienna Convention for the Protection of the Ozone Layer: Kazakhstan
- Montreal Protocol on CFC controls: Kazakhstan, Tajikistan
- Convention on International Trade in Endangered Species: Azerbaijan

Achievement Beyond Fiscal Year 1999 Annual Performance Plan Levels

With all regions meeting their 1999 targets, the Agency is giving considerable thought to revising its out-year targets. At the same time, there is some concern that progress as measured by this index may be misleading as to the real extent of environmental protection on the ground. After all, the road is long from treaty signature to national policy development to full-scale implementation. Heeding this concern, one option may be to drop this performance measure entirely. Further, this index does not relate directly to the five discrete environmental objectives (biodiversity, global climate change, urban–industrial, etc.).

Another option under review is to keep the index but raise the target to a 2 percent annual increase. Both options are being examined by the Agencywide Environmental Indicator Team.

Planned Actions to Achieve Unmet Fiscal Year 1999 Plan Levels

None. All targets were met.

Adjustments to Be Included In the Fiscal Year 2001 Annual Performance Plan

No changes were made.

Revisions to the Fiscal Year 2000 Annual Performance Plan

No changes were made.

Performance Goal 2: Biodiversity: Conservation of Biologically Significant Habitat Improved

Performance Table From Fiscal Year 1999 Annual Performance Plan

Table 5.4. Performance Goal 2: Biodiversity: Conservation Of Biologically Significant Habitat Improved

Indicator: Nationally protected areas (in 1,000s of square kilometers).

Sources: World Bank, *World Development Indicators 1999;* World Resources Institute, based on data from the World Conservation Monitoring Center.

		APP Baseline(1) 1994	Latest Actual (2) 1997	Target (3) Fiscal Year 1999
Agency Level	**planned**		**3,109**	**3,171**
	actual	**3,017**	**3,203**	
sub-Saharan Africa	planned		896	914
	actual	870	993	
Asia–Near East	planned		494	504
	actual	479	572	
Europe–Eurasia	planned		864	881
	actual	838	751	
Latin America–Caribbean	planned		855	872
	actual	830	887	

Definition: Protected areas include five World Conservation Union (ICUN) categories (national parks, managed natural reserves, etc.).

1. Going by the latest data, a revised baseline was calculated on 1994 data.

2. The latest actual data reported are from 1997. The planned data for 1997 are based on a 1 percent annual increase in protected areas, or 3 percent increase during 1994–97.

3. Assuming the goal of an annual 1 percent increase in protected areas, a 5 percent increase was planned by 1999.

A comparison can then be made between the latest actuals for 1997 and the calculated plan for 1997. The revised plan figures for 1999 reflect the 5 percent increase performance goal documented in the fiscal year 1999 Annual Performance Plan. These data were also used to make projections for the FY00 APP actuals.

Simply having an area designated as 'protected' does little to ensure its survival nor enhance biological diversity.

Performance Analysis

USAID's target is a 1 percent per year increase in the area of nationally protected land. USAID met this goal in Africa, Asia and the Near East, and Latin America and the Caribbean. The Europe and Eurasia region fell short of the 1 percent annual target (see table 5.4).

In Africa, significant increases in protected lands between 1994 and 1997 occurred in **Angola** (55,400 square kilometers—21,400 square miles), **Mozambique** (47,800 square kilometers), and **Niger** (12,800 square kilometers). Of the 24 USAID-assisted countries in the region, 13 had increases in protected lands in the two-year period. These countries contained 64 percent of all protected lands in Africa. **Tanzania,** with more than 130,000 square kilometers of protected land, had lost over one thousand square kilometers from 1994 to 1997. **Ethiopia** and **South Africa** both saw decreases in protected land during the two years, 8 and 6 percent, respectively.

In Asia and the Near East, protected lands in USAID-assisted countries increased more than 2 percent. **Mongolia** added over 100,000 square kilometers (39,000 square miles). ANE increases in protected areas occurred even while **Indonesia** lost 10,000 square kilometers and **Vietnam** over 3,000 square kilometers.

Only four LAC countries had significant decreases in protected lands. Most notable was **Mexico**, losing 53,000 square kilometers. This was offset by large increases in **Bolivia** and **Brazil.**

The decrease in protected lands in the E&E region was based on a very large decrease in **Russia.** Over a quarter of protected lands in Russia disappeared between 1994 and 1997. Positive trends were seen in the Central Asian Republics, all of which had significant increases in protected land areas, especially **Kazakhstan** (an addition of 64,000 square kilometers).

Achievement Beyond Fiscal Year 1999 Annual Performance Plan Levels

AFR, ANE, and LAC Bureaus have met or exceeded their 1999 targets but are directing their efforts more in the coming years toward improving and upgrading management practices and procedures rather than toward simply increasing protected areas.

Revisions to the Fiscal Year 2000 Annual Performance Plan

The Bureau for Europe and Eurasia is carefully evaluating its regional target and has renewed its efforts in the **Russian far east** to stem the loss of habitat.

Adjustments to Be Included In the Fiscal Year 2001 Annual Performance Plan

The Agencywide Environmental Indicators Team has been exploring alternatives to this indicator to more closely track USAID activities. Rather than center on area increases (square kilometers, numbers of new parks, etc.,) USAID works to improve habitat management. Simply having an area designated as "protected" does little to ensure its survival nor enhance biological diversity. Habitats that are "protected" can be rich in biological diver-

sity or, in stark contrast, such habitats can be devoid of the critical animals and unique plants that made it biologically diverse in the first place. Further, having lands "protected" on paper does not necessarily mean that protection has occurred in the field or is currently in force. Moreover, in some cases the Agency has directed its attention to areas of less than a thousand hectares (four square miles), which falls below the landmass usually defined as a "protected area." As a result of these concerns and to enhance sustainability, the Agencywide Environmental Indicator Team is considering a new measure that concentrates on improved management (not just on more areas).

Performance Goal 3: Global Climate Change: Rate of Growth of Net Emissions Of Greenhouse Gases Slowed

Performance Table From Fiscal Year 1999 Annual Performance Plan

Table 5.5. Performance Goal 3: Global Climate Change: Rate of Growth Of Net Emissions of Greenhouse Gases Slowed

Indicator: Carbon dioxide emissions, average annual rate of change.

Source: World Bank, *World Development Indicators 1999,* based on DOE/CDIAC database.

		APP Baseline(1) 1988–95	Latest Actual (2) 1995–96	Target (3) 1998–99
Agency Level	**planned**		**–1.25**	**–1.29**
	actual	**–1.24**	**0.98**	
sub-Saharan Africa	planned		–1.36	–1.40
	actual	–1.35	0.65	
Asia – Near East	planned		5.87	5.70
	actual	5.93	6.03	
Europe – Eurasia	planned		–9.65	–9.94
	actual	–9.55	–1.38	
Latin America – Caribbean	planned		5.05	4.90
	actual	5.10	0.53	

Definition: Annual growth rates of carbon dioxide emissions in metric tons.

Note: The indicator goal is a 1 percent decrease in the growth rate of carbon emissions, not a 1 percent decline in the amount of carbon emissions.

1. The fiscal year 1999 Annual Performance Plan baseline rate is the unweighted average of USAID-assisted countries' average annual growth rate for the 1988–95 period. This baseline was recalculated from the published baseline in the FY99 APP, which used weighted averages and a varied list of USAID-assisted countries.

2. Latest data for this indicator are the single-year growth rate for 1995–96. Comparisons should be made between this actual rate and a proposed 1 percent planned decrease from the revised base rates; however, caution should be applied because yearly CO2 emissions growth rates can fluctuate (El Salvador's emission decreased by over 20 percent in 1996, partly because of the shutdown in businesses from the aftermath of Hurricane Mitch). A 1 percent planned target is given for 1995–96 to compare with this actual.

3. A nominal 1 percent per year decrease in the emissions growth rate over four years of the total area is given for the revised 1999 goal.

As global energy use rises, greenhouse gas emissions typically increase. Fossil fuels supply roughly 90 percent of the world's commercial energy and account for more than 80 percent of carbon dioxide (CO_2) released into the atmosphere.

Developing countries' commercial energy consumption will contribute about 40 percent of the world's carbon dioxide output by 2010. Much of this will come from **China** and **South Asia,** which depend heavily on coal, particularly when it is used for generating electricity. Seventy five percent of the electricity in China and more than 60 percent in South Asia comes from coal. Since electricity demand is rising 6 percent to 7 percent a year, this could double the CO_2 emissions there between 1990 and 2010. Unfortunately, cheap fossil fuels are economically advantageous—but just for the short term. Countries need to take action to increase energy efficiency; replace fossil fuels with cleaner, more climate-benign fuels; and further develop and adopt renewable energy technologies.

Performance Analysis

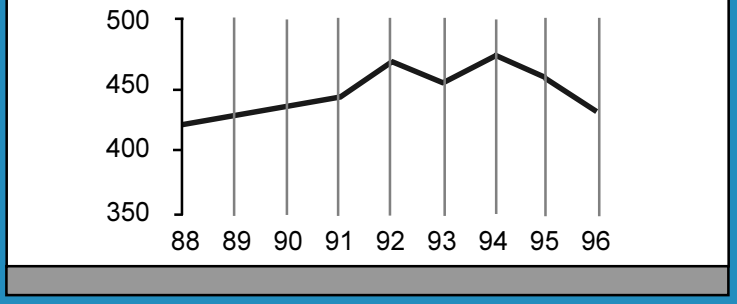
The Agency targeted a nominal 1 percent per year decrease. Table 5.5 shows CO_2 emissions average annual growth rates for USAID-assisted countries. The baseline in the fiscal year 1999 Annual Performance Plan was the average annual rate of change in CO_2 emissions between 1988 and 1995. Latest available year of data is 1996 and is compared with a 1 percent decrease in the rate of change for all USAID-assisted countries and bureaus.

The 1999 target is a four-year, 1 percent decline in the rate. These regional averages are unweighted, to show progress by "operational units." CO_2 emission levels are increasing slightly in USAID-assisted countries. The 1.2 percent average decrease of the previous years did not continue in 1996 but instead *increased* by one half of a percent.

This was the trend in Africa, where 14 of 21 reporting USAID countries showed increases or static levels of emissions. The unweighted decrease of these countries' emissions growth was just under 1 percent, due in part to a 22 percent decrease in emissions from **Angola.** More striking, the rate of change of the combined levels of CO_2 emissions of USAID-assisted African countries resulted in a 5 percent decrease in 1996 (see figure 5.3). This was influenced primarily by decreases in **South Africa's** and **Nigeria's** emissions levels, together constituting 87 percent of emissions of the assisted countries.

In Asia and the Near East, **India** is the source of 63 percent of all CO_2 emissions among USAID-assisted countries. Because India's emission levels increased from a 5.9 percent average to over 10

Figure 5.3. CO_2 Emissions, USAID-Assisted in Africa
(total emissions of 22 countries in millions of metric tons)



percent in 1996, the regional weighted average continues to grow (see figure 5.4). ANE countries also showed an increase based in unweighted terms. Twelve out of 14 countries reporting data in ANE had increases in 1996. Only **Morocco** had a decrease, and **Cambodia's** levels remained static.

CO_2 levels in **Europe and Eurasia** declined rapidly during the baseline period. Only five USAID countries out of 24 had increased emissions from 1988 through 1995. While levels on average continue to drop, 13 countries had emissions growth in 1996. Though the goal of CO_2 emissions calls for a 1 percent annual decrease in the rate of change, the drops in emissions in the E&E region are more a symptom of economic stagnation than of advances in environmental policies and technology.

Latin America's emissions growth rate decreased significantly in 1996, far exceeding the 1 percent decrease target. This was due primarily to a 22 percent decrease in 1996 in **El Salvador,** where the effects of recent Hurricane Mitch may have dampened industrial production. **Guatemala, Honduras,** and **Panama** also had declines for the year. Again, while decreases in CO_2 levels are beneficial environmentally, the causes of declines need to be better understood.

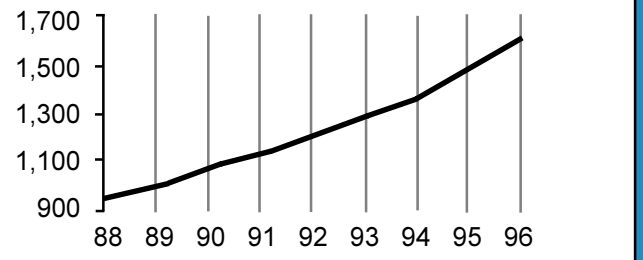
Achievement Beyond Fiscal Year 1999 Annual Performance Plan Levels

For the most part, there is considerable frustration with this indicator as a measure of USAID's programs and no strong rationale for changing targets. The question is this: to what extent are CO_2 emissions within the Agency's manageable interest? Historical trends since 1980 show a sharply accelerating growth in global CO_2. Many factors outside USAID's manageable interest—factors such as tax policies, world fuel prices, structural changes— all play a role in CO_2 emissions. Sharp and sometimes prolonged declines in energy demand for manufacturing often stem directly from civil strife and unpredicted economic downturns. Such downturns occurred last year in **Asia** and in some states of the **former Soviet Union.** They led to dramatic reductions in CO_2 emissions. Distinguishing among these causes of decreased CO_2 emissions is not easy.

Another issue is that reliable emissions data are often available only on a national level (or adjusted per capita). This contrasts with USAID's efforts, which are much more localized and typically occur in only a very limited way, in a few key locations. What's more, CO_2 data are not current. They have at least a five-year lag. This means that emissions projections are by default often used for both target-setting and actual data, leaving the so-called results open to question.

The Agencywide Environmental Indicator Team is reviewing measures

Figure 5.4. CO_2 Emissions, USAID-Assisted in ANE
(total emissions of 14 countries in millions of metric tons)



and considering alternatives to CO_2 emissions. USAID has placed a high premium on working with countries at the national level, especially those contributing most to the pollution problem. One candidate measure under review is a measure to capture host-country participation in various aspects of the Framework Convention on Climate Change.

In 1996 the UN Center for Human Settlements estimated that 280 million urban dwellers lacked potable water and 588 million lacked basic sanitation.

Planned Actions to Achieve Unmet Fiscal Year 1999 Plan Levels

See above.

Revisions to the Fiscal Year 2000 Annual Performance Plan

No changes were made.

Adjustments to Be Included In the Fiscal Year 2001 Annual Performance Plan

No changes were made.

Performance Goal 4: Sustainable Urbanization: Urban Population's Access to Adequate Environmental Services Increased

Two of the main global indicators the Agency uses to measure progress toward sustainable urbanization are access to safe drinking water and access to sanitation services. In 1996 the UN Center for Human Settlements estimated that 280 million urban dwellers lacked potable water and 588 million lacked basic sanitation. Additionally, less than 70 percent of solid waste was being collected in urban areas and only 50 percent of households were being served.

Performance Analysis

Although reliable data are available during the 1990s, trend data are not available for most USAID-assisted countries. While information on access to safe water is widely used as an indicator, it is extremely subjective despite efforts to establish common terms and reference points. Terms such as "adequate amount" and "safe" have different meanings in different countries." Specifically, "safe" water in developing countries rarely meets standards of water quality and access in Europe and North America. National and regional averages also mask differences in access to services between rich and poor, male and female, and urban and rural populations.

By 1997, among USAID-assisted countries, 72 percent of the urban population in **sub-Saharan Africa** had access to safe water, as did 81 percent in **Asia and the Near East** and **Northern Africa** and 86 percent in **Latin America and the Carib-**

bean—reaching or exceeding 1997 targets (see table 5.6a). Few countries in **eastern Europe** and the **former Soviet Union** report on access to safe water. The regional average, based on 12 countries, was 83 percent—below target. LAC countries are just slightly below their 1997 targets and may fall short of expected 1999 targets—but reaching the last 15 percent of households always requires an inordinate effort.

Performance Table From Fiscal Year 1999 Annual Performance Plan

Table 5.6a. Performance Goal 4: Sustainable Urbanization: Urban Population's Access to Adequate Environmental Services Increased

Indicator: Percent of urban population with access to safe drinking water.

Source: World Health Organization data reported in World Bank, *World Development Indicators 1999.*

		APP Baseline(1) 1993	Latest Actual (2) 1997	Target (3) Fiscal Year 1999
Agency Level	**planned**		**80.5**	**82.2**
	actual	**77.4**	**80.1**	
sub-Saharan Africa	planned		71.5	72.9
	actual	68.7	72.3	
Asia–Near East	planned		81.3	82.9
	actual	78.1	82.1	
Europe–Eurasia	planned		87.0	88.7
	actual	83.6	83.3	
Latin America–Caribbean	planned		86.6	88.3
	actual	83.2	85.6	

Definition: World Health Organization (WHO) standards for access to safe drinking are used. Reasonable access to safe drinking water in an urban area is defined by WHO as access to piped water or a public standpipe within 200 meters of a dwelling or housing unit. The WHO data are collected from national government agencies. Definitions of urban populations and services may vary and might not be strictly comparable.

1. The baseline from the 1999 APP was based on the latest data during the 1988–93 period. The baseline was revised also using the revised list of USAID-assisted countries.

2. The latest available data in 1999 include additional updates through 1997. As the APP goal was an annual 1 percent increase in access, the 1997 plan reflects a 4 percent increase. Comparisons can then be made between these planned percentages and the actual latest data for 1996.

3. The projected target for 1999 (data available in 2001) is based on six years at 1 percent increase from the baseline.

All regional averages are unweighted.

Performance Analysis

As for access to sanitation (table 5.6b) for USAID-assisted countries, 68 percent of the urban population has access to sanitation services in **sub-Saharan Africa,** 78 percent has access in **Asia and the Near East** and **Northern Africa,** 82 percent in **Europe and Eurasia,** and 78 percent in **Latin America and the Caribbean.** With the exception of Asia and the Near East, progress against targets has been less than expected.

Achievement Beyond Fiscal Year 1999 Annual Performance Plan Levels

There are no plans to elevate targets for access to safe water (**Africa** and **Asia–Near East**) and sanitation services (**Asia–Near East**) where goals are either met or nearly met and trends appear to be positive for 1999.

Performance Table From Fiscal Year 1999 Annual Performance Plan

Table 5.6b. Performance Goal 4: Sustainable Urbanization: Urban Population's Access to Adequate Environmental Services Increased

Indicator: Percent of urban population with access to sanitation services.

Source: World Health Organization data reported in World Bank, *World Development Indicators 1999.*

		APP Baseline(1) 1993	Latest Actual (2) 1997	Target (3) Fiscal Year 1999
Agency Level	**planned**		**77.0**	**78.6**
	actual	**74.0**	**76.1**	
sub-Saharan Africa	planned		68.7	70.1
	actual	66.0	67.9	
Asia–Near East	planned		73.9	75.4
	actual	71.0	78.2	
Europe–Eurasia	planned		85.4	87.2
	actual	82.1	82.1	
Latin America–Caribbean	planned		79.2	80.8
	actual	76.1	78.6	

Definition: World Health Organization standards for access to sanitation are used. Urban areas with access to sanitation services are defined as urban populations served by connections to public sewers or household systems such as pit privies, pour–flush latrines, septic tanks, communal toilets, or other such facilities. The World Health Organization data were collected from national government agencies. Definitions of urban populations and services may vary and might not be strictly comparable.

1. The baseline from the fiscal year 1999 Annual Performance Plan was based on the latest data during the 1988–93 period. The baseline was revised also using the revised list of USAID-assisted countries.

2. The latest available data in 1999 include updates through 1997. As the APP goal was an annual 1 percent increase in access, the 1997 plan reflects a 4 percent increase. Comparisons can then be made between these planned percentages and the actual latest data for 1997.

3. The projected target for 1999 (data available in 2001) is based on six years at 1 percent increase from the baseline. All regional averages are unweighted.

Planned Actions to Achieve Unmet Fiscal Year 1999 Plan Levels

From a measurement–indicator perspective, access to water and sanitation services has been used for some time by the development community to assess household access to basic services. Typically these data have been on a national level with less accuracy when distinguishing between rural and urban areas, since different data-collection methods, definitions of access, and the like have been used. Even definitions of city and urban boundaries have made it difficult to assemble an integrated data set for "urban households." That's because some of the largest cities are spread across different administrative jurisdictions.

The current urban indicators do not well trace USAID programs—since a very limited number of assistance programs directly address increased access to water or sanitation with the exceptions of efforts in Asia and the Near East. Over time, USAID has gradually shifted its program emphasis to a much wider array of municipal services—often engaging the private sector. These include urban financing, improved municipal management practices, policy formulation (land planning, cleaner production, and the like) and strengthening the governance capacity of cities. In short, the current indicators are too narrowly targeted. They fail to capture the full range or diversity of USAID's urban programs.

This problem had led the Agencywide Environmental Indicator Team to consider using an urban index to reflect USAID performance along a much broader spectrum—not just water and sanitation services. Careful review of existing indicator components is under way, and discussion has begun about how to build and validate this new urban index.

The current indicators are too narrowly targeted. They fail to capture the full range or diversity of USAID's urban programs.

Revisions to the Fiscal Year 2000 Annual Performance Plan

No changes were made.

Adjustments to Be Included In the Fiscal Year 2001 Annual Performance Plan

No changes were made.

Performance Goal 5: Environmentally Sound Energy Services: Energy Conserved Through Increased Efficiency and Reliance On Renewable Sources

Performance Analysis

Table 5.7 shows USAID-assisted countries' regional averages of GDP per unit of energy use. The averages are unweighted. Of the regional bureaus, only **Africa** and **Europe and Eurasia** exceeded the target of an annual 1 percent increase. In fact, both regions met the 1999 target in 1996. Six countries in Africa (13 reporting) show minimal increases. Eight of 22 increased in E&E, with Georgia's rate moving from $ 1.0 to $2.1. Both **Asia and the Near East** and **Latin America and the Caribbean** did not track at the 1

percent increase; however, the GDP per energy unit remained above $2.

Achievements Beyond Fiscal Year 1999 Plan Levels

There are no plans to adjust targets at this time.

Planned Actions to Achieve Unmet Fiscal Year 1999 Plan Levels

Use of the energy intensity performance indicator has been problematic for USAID. For one thing, data are unreliable in some regions, especially in **Central Asia** and **eastern Europe.** For another, energy intensity is not a commonly used performance indicator. Third, and perhaps most difficult, is that energy intensity only distally captures the Agency's programmatic thrust—which mainly centers on national energy

Performance Table From Fiscal Year 1999 Annual Performance Plan

Table 5.7. Performance Goal 5: Environmentally Sound Energy Services: Energy Conserved Through Increased Efficiency and Reliance on Renewable Sources

Indicator: GDP per unit of energy use.

Sources: World Bank, *World Development Indicators 1999;* USAID calculations.

		APP Baseline(1) 1994	Latest Actual (2) 1996	Target (3) Fiscal Year 1999
Agency Level	**planned**		**1.54**	**1.59**
	actual	**1.51**	**1.53**	
sub-Saharan Africa	planned		0.75	0.78
	actual	0.74	0.78	
Asia–Near East	planned		2.05	2.11
	actual	2.01	2.03	
Europe–Eurasia	planned		1.09	1.12
	actual	1.07	1.13	
Latin America–Caribbean	planned		2.50	2.57
	actual	2.45	2.39	

Definition: The energy efficiency indicator is gross domestic product per unit of energy used, defined as the U.S. dollar estimate of the real GDP (at 1995 prices) per kilogram of oil equivalent of commercial energy use. The larger the ratio, the greater the energy efficiency.

1. The baseline from the fiscal year 1999 Annual Performance Plan was based on 1994 data. The baseline was revised using 1994 data based on a revised list of USAID-assisted countries. Differences with the FY99 APP also result from the World Bank's change in the constant $US base year from 1987 to 1995.

2. The latest available data in 1999 are for 1996. As the APP goal was an annual 1 percent increase in efficiency, the 1996 actuals can be compared with a planned 1996 target based on a 2 percent increase from the 1994 baseline.

3. The 1999 target is based on the 1994 baseline and a 5 percent annual increase.

All regional averages are unweighted.

policies and regulations affecting the industrial and power-generating sectors. USAID also is working hard with key companies to adopt environmental quality standards and to encourage more private sector investment in environmentally sound energy production. These efforts surely relate to the energy-efficiency goal, but they are the necessary precursors to energy-efficiency gains over the long haul. A fourth problem is that the current indicator reflects countrywide energy efficiency changes, whereas in most cases the Agency has targeted specific industries and localities. The Agencywide Environmental Indicator Team is reviewing indicators that better capture USAID's program and is considering measures of increased private sector involvement in energy-related activities as an alternative.

Revisions to the Fiscal Year 2000 Annual Performance Plan

No changes were made.

Adjustments to Be Included In the Fiscal Year 2001 Annual Performance Plan

No changes were made.

From 1980 through 1995, the developing world lost nearly 200 million hectares (770,000 square miles) of forest.

Performance Goal 6: Natural Resource Management: Loss of Forest Area Slowed

The annual change in total forest area is one indicator the Agency considers in its approach to sustainable natural resource management. From 1980 through 1995, the developing world lost nearly 200 million hectares (770,000 square miles) of forest. The greatest threats are from mining, road building, accidental fires, unchecked logging, slash-and-burn agriculture, and land conversion to cattle ranching and cash crops.

Performance Analysis

We are unable to assess current Agency performance using this indicator against targets because of lack of data. For USAID-assisted countries, the annual change in total forest area for 1990–95 was as follows: **sub-Saharan Africa,** –0.76 percent (–26,000 square kilometers—10,000 square miles); **Asia and the Near East,** –0.83 percent (–21,300 square kilometers—8,200 square miles); **Europe and Eurasia,** +0.06 percent (5,500 square kilometers—2,100 square miles), and **Latin America and the Caribbean,** –0.6 percent (–51,000 square kilometers—20,000 square miles).

Data on deforestation between 1995 and 1997 were expected from the UN Food and Agricultural Organization (FAO) but are not yet available. Thus, table 5.8 shows only the deforestation totals between 1990 and 1995 as the baseline and a 1999 target of a four-year, 1 percent annual reduction in the amount of deforestation.

In Africa, the **Democratic Republic of the Congo** (formerly Zaire) was added as a USAID-assisted country and includes over a million square kilometers of forest area. That country saw the largest loss of forest area from 1990 through 1995, almost 40,000 square

kilometers (15,500 square miles). Of the 24 USAID countries in the region, all but six lost over a thousand square kilometers of forest area.

Indonesia lost the most forest area in ANE, 54,000 square kilometers (21,000 square miles), more than half of the region's USAID-countries' losses. In contrast, in Europe and Eurasia all but two countries had either no loss or actual gains in forested area. **Kazakhstan** and **Uzbekistan** forest area increased significantly. This resulted in an increase in forest area for Europe and Eurasia as a whole. Performance analysis on trends in this indicator will follow anticipated data updates.

Achievement Beyond Fiscal Year 1999 Plan Levels

Not applicable.

Performance Table From Fiscal Year 1999 Annual Performance Plan

Table 5.8. Performance Goal 6: Natural Resource Management: Loss of Forest Area Slowed

Indicator: Average annual change in total forest area (in thousands of square kilometers).

Sources: The Food and Agriculture Organization of the United Nations (FAO); *State of the World's Forests, 1997; World Development Indicators;* USAID calculations.

		APP Baseline(1) 1990–95	Latest Actual (2) n/a	Target (3) Fiscal Year 1999
Agency Level	**planned**			**–358**
	actual	**–467**	**n/a**	
sub-Saharan Africa	planned			–102
	actual	–133	n/a	
Asia–Near East	planned			-82
	actual	–106	n/a	
Europe–Eurasia	planned			23
	actual	28	n/a	
Latin America–Caribbean	planned			–196
	actual	–255	n/a	

Definition: Total forest area includes both natural forest and plantation area. The change in natural forest includes the permanent conversion of natural forest to other uses, including shifting cultivation, permanent agriculture, ranching, settlements, or infrastructure. The areas expressed above are in thousands of square kilometers (in the fiscal year 1999 Annual Performance Plan the numbers were in thousands of hectares).

1. Data on total forest area change are based on 1990 and 1995 figures. The baseline is the amount of forest area gained or lost during the five-year period (losses are negative).

2. USAID was expecting FAO to report updated forest data for 1997 during 1999; however, these data are still unavailable from this source but will be included once they are made available.

3. A nominal 1 percent per year decrease in the area lost over four years is given for the revised 1999 target. In the case of the Europe and Eurasia region, where forest area actually increased, a further 4 percent increase is targeted for 1999.

Planned Actions to Achieve Unmet Fiscal Year 1999 Plan Levels

The Agency, like most other information users, awaits FAO release of new data. At the same time, the Agencywide Environmental Indicators Team is pressing ahead to develop and review a proxy indicator that may better capture USAID's highly diverse on-the-ground work in natural resource development assistance. The team is considering a measure of the number of resource user groups (as with water, forests, coastal, and households) adopting and using improved techniques or effectively managing local natural resources.

Revisions to the Fiscal Year 2000 Annual Performance Plan

No changes were made.

Adjustments to Be Included In the Fiscal Year 2001 Annual Performance Plan

No changes were made.

Notes

[1]See section B, USAID's fiscal year 1999 Annual Performance Plan.
[2]Similar technical assistance in strengthening financial systems, urban environmental management, and strategic planning is being provided through this program to more than 30 cities worldwide.